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Claim Amendments
Including a complete listing of all claims

1-8 (Canceled)

9. (Previously Presented) A beadlock comprising an insert casing and a bead spacer for providing an air passageway in a vehicle tire to be mounted on a wheel rim on which is located an insert valve and a rim lip for retention of the vehicle tire bead, said insert casing including an insert bead adapted to push against said tire bead and to hold said tire bead firmly against the inner surface of said rim lip, the inner wall of said vehicle tire and the outer surface of said insert casing defining an internal tire space to be pressurized for inflation of said vehicle tire or depressurized for the deflation of said vehicle tire via said insert valve, said tire bead and said insert bead interposed between said internal tire space and said insert valve, said bead spacer extending from said insert bead to a valve area to define at least one air passageway for communication of said internal tire space with said insert valve, wherein said bead spacer is made of material sufficiently flexible to substantially conform to the contours of said wheel rim and sufficiently incompressible in at least one dimension to provide said air passageway, wherein said bead spacer comprises a

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pair of parallel rectangular strips defining said air passageway therebetween.

10. (Canceled)

11. (Currently Amended) A beadlock comprising an insert casing and a bead spacer for providing an air passageway in a vehicle tire to be mounted on a wheel rim on which is located an insert valve and a rim lip for retention of the vehicle tire bead, said insert casing including an insert bead adapted to push against said tire bead and to hold said tire bead firmly against the inner surface of said rim lip, the inner wall of said vehicle tire and the outer surface of said insert casing defining an internal tire space to be pressurized for inflation of said vehicle tire or depressurized for the deflation of said vehicle tire via said insert valve, said tire bead and said insert bead interposed between said internal tire space and said insert valve, said bead spacer extending from said insert bead to a valve area to define at least one air passageway for communication of said internal tire space with said insert valve, wherein said bead spacer is made of material sufficiently flexible to substantially conform to the contours of said wheel rim and sufficiently incompressible in at least one dimension to provide said air passageway, further comprising an apron extending from said insert bead in use to said insert valve area

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to protect ~~said~~ an inflatable inner tube located within said insert casing against damage from said insert valve.

12-14 (Canceled)

15. (Previously Presented) A beadlock for four wheel drive or low pressure applications comprising an insert casing and a bead spacer for providing an air passageway across an insert bead of the bead lock in a vehicle tire, said insert casing comprising an insert bead made from tightly woven fabric which is substantially incompressible in at least one dimension to define said air passageway, wherein said bead spacer comprises a pair of parallel rectangular strips defining said air passageway therebetween.

16. (Canceled)

17. (Previously Presented) A vehicle pneumatic tire and wheel rim assembly for low tire pressure or off-road uses comprising:

a vehicle tire having two spaced peripheral tire beads;

a wheel rim on which is located an insert valve and having spaced rim lips receiving therebetween and for retaining the tire beads;

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an inflatable inner tube surrounding said wheel rim and being located within said vehicle tire and between said peripheral tire beads; and

a beadlock which comprises:

an insert casing receiving said inner tube therein and having two spaced peripheral insert beads adapted to be pushed upon inflation of said inner tube against respective ones of said tire beads so as to hold said tire beads firmly against inner surfaces of the respective said rim lips,

a bead spacer providing an air passageway to an internal tire space defined between an inner wall of said vehicle tire and the outer surface of said insert casing so that the internal tire space can be pressurized for inflation of said vehicle tire or depressurized for the deflation of said vehicle tire via said insert valve, one of said tire beads and its respective said insert bead being interposed between said internal tire space and said insert valve, and said bead spacer extending from said insert bead to an insert valve area where said insert valve is located whereby to define at least one air passage for communication of said internal tire space with said insert valve, said bead spacer being made of material sufficiently flexible to substantially conform to the contours of said wheel rim and sufficiently incompressible to provide said air passageway.

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18. (Previously Presented) An assembly as claimed in claim 17 wherein said insert casing is made of a woven fiber material.

19. (Previously Presented) An assembly as claimed in claim 17 wherein said insert casing includes a strong, flexible and substantially inelastic circumferential band to limit radial expansion of the inner tube therein when inflated.

20. (Previously Presented) An assembly as claimed in claim 19 wherein said insert casing further includes two side walls of flexible material extending generally radially inwardly from opposite sides of the circumferential band and having said two peripheral insert beads extending around the peripheral edges of the side walls.

21. (Previously Presented) An assembly as claimed in claim 20 wherein each of said insert beads is made of a woven material strongly affixed to the peripheral edges of the side walls.

22. (Previously Presented) An assembly as claimed in claim 21 wherein said woven material is doubled over the peripheral edge of the respective side wall and stitching is applied to attach the doubled over layers of woven material to the peripheral edge of the respective side wall.

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23. (Previously Presented) An assembly as claimed in claim 17 wherein said side walls are made of a flexible material of lighter gauge than the circumferential band so as to readily flex to enable the insert beads to move axially outwardly upon inflation of the inner tube to thereby bear against the peripheral tire beads of the vehicle tire and press the tire beads into strong engagement with the inner surfaces of the respective said rim lips.

24. (Previously Presented) An assembly according to claim 17, wherein said bead spacer is light weight and mounted to said insert bead.

25. (Previously Presented) An assembly according to claim 17, wherein said bead spacer includes at least two spacer members which together define therebetween said air passageway.

26. (Previously Presented) An assembly according to claim 17, wherein said bead spacer is made from a woven material.

27. (Previously Presented) An assembly according to claim 26, wherein said bead spacer is made from tightly woven material and is substantially incompressible in at least one dimension.

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28. (Previously Presented) An assembly according to claim 26, wherein said bead spacer is in the form of one or more ribbons or strips of thick woven material.

29. (Previously Presented) An assembly according to claim 26, wherein said bead spacer is made from tightly woven polyester fabric.

30. (Previously Presented) An assembly according to claim 17, wherein said bead spacer is made from a solid polymeric material.

31. (Previously Presented) An assembly according to claim 17, wherein said bead spacer is in the form of a rectangular strip.

32. (Previously Presented) An assembly according to claim 17, and further including an apron extending from said insert bead to said insert valve area and overlying the adjacent surfaces of the wheel rim to protect said inner tube against damage from said insert valve.

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33. (Previously Presented) A beadlock for a vehicle pneumatic tire and wheel rim assembly for low tire pressure or off-road uses said assembly in use comprising:

a vehicle tire having two spaced peripheral tire beads;

a wheel rim on which is located an insert valve and having spaced rim lips receiving therebetween and for retaining the tire beads;

an inflatable inner tube surrounding said wheel rim and being located within said vehicle tire and between said peripheral tire beads;

the beadlock comprising:

an insert casing for receiving said inner tube therein, said insert casing including a strong, flexible and substantially inelastic circumferential band to limit radial expansion of the inner tube therein when inflated, and two side walls of flexible material extending generally radially inwardly from opposite sides of the circumferential band and having two peripheral insert beads extending around the peripheral edges of the side walls, the insert beads being adapted to be pushed in use upon inflation of said inner tube against respective ones of said tire beads so as to hold said tire beads firmly against inner surfaces of the respective said rim lips, and

a bead spacer for providing an air passageway to an internal tire space defined between an inner wall of said vehicle tire and

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the outer surface of said insert casing radially beyond the circumferential band so that the internal tire space can be pressurized for inflation of said vehicle tire or depressurized for the deflation of said vehicle tire via said insert valve, whereby in use one of said tire beads and its respective said insert bead is interposed between said internal tire space and said insert valve, and said bead spacer can extend from said insert bead to an insert valve area where said insert valve is located whereby to define at least one air passage for communication of said internal tire space with said insert valve, said bead spacer being made of material sufficiently flexible to substantially conform to the contours of said wheel rim and sufficiently incompressible to provide said air passageway.

34. (Previously Presented) A beadlock as claimed in claim 33 wherein said insert casing is made of a woven fiber material.

35. (Previously Presented) A beadlock as claimed in claim 33 wherein each of said insert beads is made of a woven material strongly affixed to the peripheral edges of the side walls.

36. (Previously Presented) A beadlock as claimed in claim 35 wherein said woven material is doubled over the peripheral edge of the respective side wall and stitching is applied to

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attach the doubled over layers of woven material to the peripheral edge of the respective side wall.

37. (Previously Presented) A beadlock as claimed in claim 34 wherein said side walls are made of a flexible material of lighter gauge than the circumferential band so as to readily flex to enable the insert beads to move axially outwardly upon inflation of the inner tube to thereby bear against the peripheral tire beads of the vehicle tire and press the tire beads into strong engagement with the inner surfaces of the respective said rim lips.

38. (Previously Presented) A method of operating a wheeled vehicle having pneumatic tires on the wheels thereof with the inflation pressures of the pneumatic tires being significantly lowered from normal operating tire inflation pressures to thereby substantially increase the foot print of the pneumatic tires to thereby increase traction and/or provide greater cushioning, each wheel of the vehicle having a vehicle pneumatic tire and wheel rim assembly comprising: a vehicle tire having two spaced peripheral tire beads; and a wheel rim on which is located an insert valve and which has spaced rim lips receiving therebetween and retaining the vehicle tire beads; said method comprising the steps of:

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providing for each vehicle wheel and locating within the tire of each wheel:

an inflatable inner tube surrounding said wheel rim and located within said vehicle tire and between said peripheral tire beads; and

a beadlock which includes an insert casing receiving said inner tube therein and having two spaced peripheral insert beads on opposite sides of said inner tube, and a bead spacer providing an air passageway to an internal tire space defined between an inner wall of said vehicle tire and the outer surface of said insert casing so that the internal tire space can be pressurized for inflation of said vehicle tire or depressurized for the deflation of said vehicle tire via said insert valve, one of said tire beads and its respective said insert bead being interposed between said internal tire space and said insert valve, and said bead spacer extending from said insert bead to an insert valve area where said insert valve is located whereby to define at least one air passage for communication of said internal tire space with said insert valve, said bead spacer being made of material sufficiently flexible to substantially conform to the contours of said wheel rim and sufficiently incompressible to provide said air passageway;

inflating said inner tube so that the inner tube is confined against substantial radial expansion by said insert casing and

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expands axially to push the peripheral insert beads of the insert casing against respective ones of the tire beads so as to hold the tire beads firmly against the inner surfaces of the respective rim lips of the wheel rim whereby the insert casing adopts a low profile within the vehicle tire;

pressurizing the internal tire space by means of said insert valve to a relatively low pressure and thereafter operating the vehicle whereby the vehicle tire is securely retained by the beadlock to the wheel rim; and

at the end of a period of operation of the vehicle with the tires inflated to a relatively low pressure, increasing the inflation pressure in the internal tire space of each tire via said insert valve for further operation of the vehicle at normal operating tire inflation pressures.

39. (Previously Presented) A method as claimed in claim 38 wherein the vehicle is operated in an off road environment with the tires being deflated for increasing the footprint of each tire and thereby increasing traction.

40. (Previously Presented) A method as claimed in claim 38 wherein for each vehicle tire said inner tube remains permanently inflated irrespective of the use to which the vehicle is being put and irrespective of whether the inflation pressure in the

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internal tire space is relatively low or deflated for increased tire footprint or is relatively highly inflated for uses requiring smaller tire footprint.

41. (Canceled)